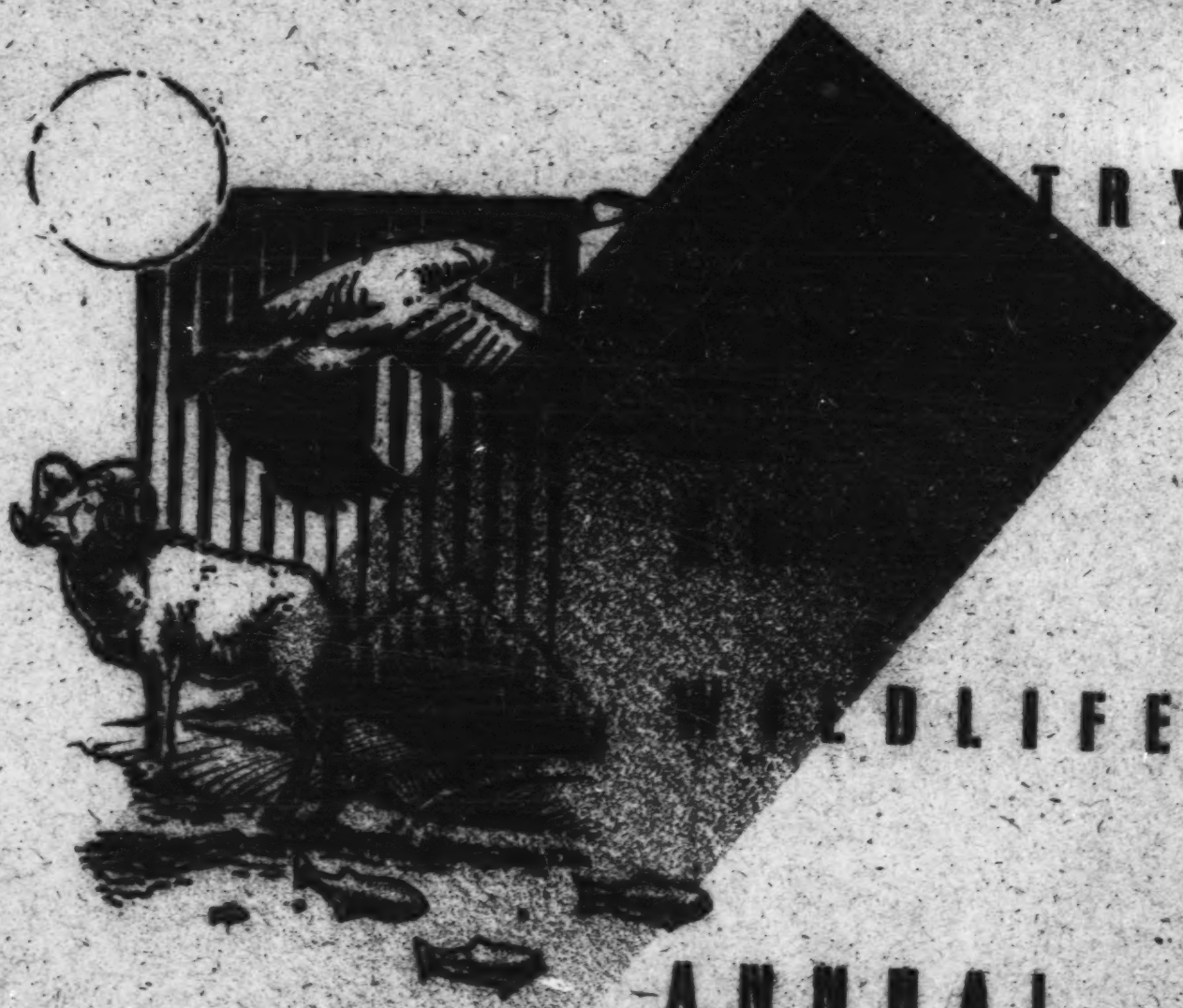

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Alberta

FORESTRY, LANDS and WILDLIFE

Office of the Minister

408 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3674

May 15, 1991

The Honourable Gordon Towers
Lieutenant Governor of the Province of Alberta

May it please your Honour:

For the information of your Honour and the Legislative Assembly, it is my privilege to present the Annual Report of the Department of Forestry, Lands and Wildlife, for the fiscal year ended March 31, 1990.

Respectfully submitted,

LeRoy Fjordbotten
Minister of Forestry, Lands and Wildlife

MINISTER'S MESSAGE

During 1989-90, the Department of Forestry, Lands and Wildlife placed greater emphasis on taking a balanced approach to managing Alberta's renewable resources.

Our commitment to integrated resource management has been, and continues to be, the cornerstone of this department. This resource philosophy recognizes that the use of any resource inevitably affects others, and that resources and potential users must be considered together in making decisions. This management approach enables the department to fulfill its unique role as both the holder of public land and steward of the forests, fish and wildlife found on that land.

The new policy initiatives undertaken this year for public involvement in Forest Management Planning demonstrate how the department will continue to fulfill its commitment to integrated resource management.

Over the past year, work began on implementation of the Prairie Conservation Action Plan, a massive undertaking to conserve the biological diversity of the prairie and parkland regions.

The ongoing effort to better manage the province's wildlife resource saw new initiatives undertaken to preserve threatened species and enhance habitat.

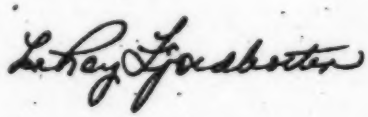
The year saw the production of the country's most complete and colourful wildlife viewing reference. The *Alberta Wildlife Viewing Guide* offers comprehensive information on where and how to enjoy wildlife in its natural setting.

This department's contribution to the economic, social and cultural fabric of Alberta has continued to grow in significance. Northern Alberta, in particular, has enjoyed benefits from the economic diversification generated by commercial forestry activities, including the enrichment of communities, the creation of employment and the potential for technological advancement such activity brings.

As well, the Expert Panel on Forest Management, headed by Dr. B. Dancik of the University of Alberta, worked to identify issues of concern to Albertans and develop recommendations in the areas of forest management, public involvement and conservation.

In review, 1989-90 was a year in which the department continued its work to build a solid, practical and responsive foundation for the management of Alberta's renewable resource base.

We continue in our belief that through proper management, our natural resources will flourish as sources of enjoyment, ecological diversity and economic enrichment for many generations to come.



LeRoy Fjordbotten
Minister

OVERVIEW

Alberta Forestry, Lands and Wildlife is responsible for managing the province's natural resources - fish and wildlife, public lands and forests. A philosophy of Integrated Resource Management guides the department to work cooperatively with all resource users and involve the public in planning and management activities. The department consists of five divisions, each with a specific area of responsibility. These divisions are: Alberta Forest Service, Forest Industry Development, Public Lands, Land Information Services and Fish and Wildlife.

Alberta Forest Service (AFS) manages forested public land in the Green Area, which covers 60 per cent of the province. AFS's many responsibilities include timber and range management; watershed management; reforestation and reclamation; integrated resource planning; recreational uses; regulation of petroleum and natural gas exploration and development; oil sands, coal, geophysical and land dispositions; the Junior Forest Warden and Junior Forest Ranger programs; and protection against fire, disease and insects.

Forest Industry Development was established in 1986 to assist new and existing forest companies and private investors in utilizing Alberta's forest resources to produce a variety of forest products. It is also responsible for expanding Alberta's forest-product export markets and attracting investment and private sector involvement in the development of renewable forest resources.

Public Lands manages public land throughout the White (settled) Area of the province. It is also responsible for administration and integrated resource planning in both the White and Green Areas. Public lands may be leased for grazing, cultivation, recreation, commercial and industrial activities. They may be sold for farms, plant sites or various commercial-industrial purposes. Lands are also set aside for grazing reserves and designated Natural Areas, or for use by other departments or agencies. The Public Lands division is also responsible for the Foreign Ownership of Land and Land Agents Licencing programs.

Land Information Services is responsible for surveying, mapping and remote sensing information for the province. The division also provides aerial photography, integrated inventories and mapping of natural resources.

In addition to these five divisions, three branches provide support to the department.

Fish and Wildlife works to ensure wildlife resources benefit all Albertans. It is a conservation and protection agency that protects endangered and threatened species. It also manages fish and wildlife populations to meet the needs of local residents, commercial fishermen, hunters and visiting sports and recreation enthusiasts.

Coordination Services manages activities involving more than one division. For example, it manages the department's involvement in Native land claims and related matters, and is involved in the implementation of the Prairie Conservation Action Plan. In the regions across Alberta, Coordination Services promotes integrated resource management.

Corporate Services and Strategic Planning is the new name of the Policy Secretariat. The change was made to better reflect the range of services provided to the department. This group coordinates the department's strategic planning initiative, assists various task forces within the department and helps identify renewable resource management issues significant to Albertans.

Public Communications advises the department and senior management on all aspects of public relations. Services include communications and program planning; issues management; assistance to the Minister; development and placement of electronic and print advertising; media relations; display coordination, design and production; creative design and printing coordination and audio-visual production.

Forestry, Lands and Wildlife shares, with the Department of Energy, the Finance and Administration Division which provides a number of additional support services.

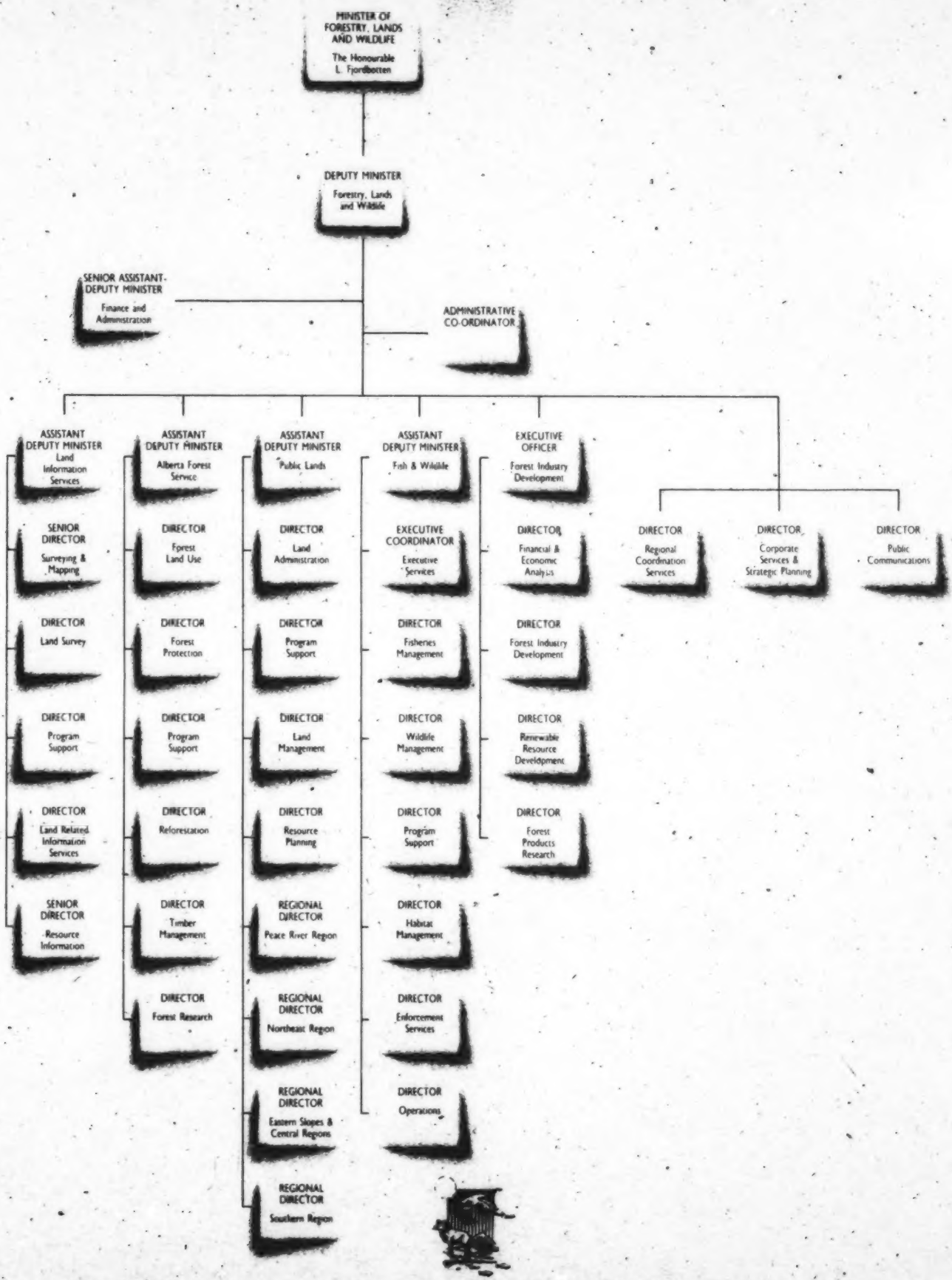
General Services provides administrative support through corporate Records Management, Extension Services, Accommodation Services and Crown Land Data Services.

Internal Audit examines financial and operating activities to ensure internal accounting and administrative controls function properly. It helps divisional managers evaluate program efficiency and economy, and conducts management audits.

Financial Services operates the computer systems that track accounts receivable and access land status information for billing. The group also provides a system that allows divisions to monitor budget forecasts and report on their ongoing financial status.

Automated Information Systems provides technical expertise and leadership in automated information and office systems. This division is responsible for the introduction of new technology, development of systems and the maintenance and integration of existing systems.

Human Resources provides services to the department in the areas of recruitment, classification, wage and salary administration, employee relations, staff and organizational development, human resource information management, security and occupational health and safety. The Forest Technology School in Hinton, which operates as part of Human Resources, provides training facilities for the department.


MINISTER OF FORESTRY, LANDS AND WILDLIFE
The Honourable L. Fjordbotten
DEPUTY MINISTER
Forestry, Lands and Wildlife
SENIOR ASSISTANT DEPUTY MINISTER
Finance and Administration
ADMINISTRATIVE CO-ORDINATOR
ASSISTANT DEPUTY MINISTER
Land Information Services
SENIOR DIRECTOR
Surveying & Mapping
DIRECTOR
Land Survey
DIRECTOR
Program Support
DIRECTOR
Land Related Information Services
SENIOR DIRECTOR
Resource Information
ASSISTANT DEPUTY MINISTER
Alberta Forest Service
DIRECTOR
Forest Land Use
DIRECTOR
Forest Protection
DIRECTOR
Program Support
DIRECTOR
Reforestation
DIRECTOR
Timber Management
DIRECTOR
Forest Research
ASSISTANT DEPUTY MINISTER
Public Lands
DIRECTOR
Land Administration
DIRECTOR
Program Support
DIRECTOR
Land Management
DIRECTOR
Resource Planning
REGIONAL DIRECTOR
Peace River Region
REGIONAL DIRECTOR
Northeast Region
REGIONAL DIRECTOR
Eastern Slopes & Central Regions
REGIONAL DIRECTOR
Southern Region
ASSISTANT DEPUTY MINISTER
Fish & Wildlife
EXECUTIVE COORDINATOR
Executive Services
DIRECTOR
Fisheries Management
DIRECTOR
Wildlife Management
DIRECTOR
Program Support
DIRECTOR
Habitat Management
DIRECTOR
Enforcement Services
DIRECTOR
Operations
EXECUTIVE OFFICER
Forest Industry Development
DIRECTOR
Financial & Economic Analysis
DIRECTOR
Forest Industry Development
DIRECTOR
Renewable Resource Development
DIRECTOR
Forest Products Research
DIRECTOR
Regional Coordination Services
DIRECTOR
Corporate Services & Strategic Planning
DIRECTOR
Public Communications

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Our Crown-held forests are a shared resource that cover 350,000 square kilometres or 60 per cent of the province. They not only provide habitat for wildlife, but also provide a retreat for campers, hikers, skiers and photographers. For hunters and fishermen, they are a source of natural abundance. For industry, they are the source for timber harvesting, oil and gas exploration, mining and grazing.

The divisions within Alberta Forestry, Lands and Wildlife work together to make the best use of forested areas. This goal is accomplished through integrated resource management, a process that considers all resources and interests when land-use decisions are made. At each stage of the decision-making process, staff consult with interested stakeholders and other government agencies to ensure that balanced, responsible decisions are made.

ALBERTA FOREST SERVICE

Timber Management

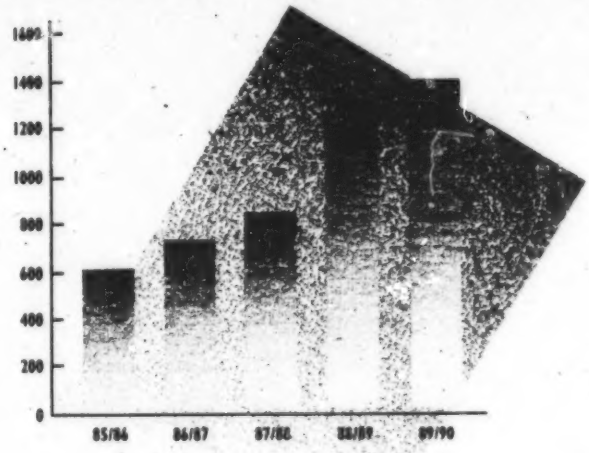
Alberta's productive and potentially-productive forest lands cover approximately 183,000 square kilometres and 20,000 square kilometres, respectively. Based on the provincial inventory, Alberta has approximately 2.2 billion cubic metres of standing coniferous and deciduous timber.

Alberta's forest industry is a well-established and thriving contributor to the economy of the province. The industry is a major exporter of high-quality softwood lumber and bleached kraft pulp. Recent developments in the province, such as oriented strandboard and medium density fibreboard along with chemi-thermo-mechanical pulp (CTMP), have resulted in improved use of the overall timber resource, thereby obtaining greater productivity from the forests.

Timber Dispositions Issued 1989-90

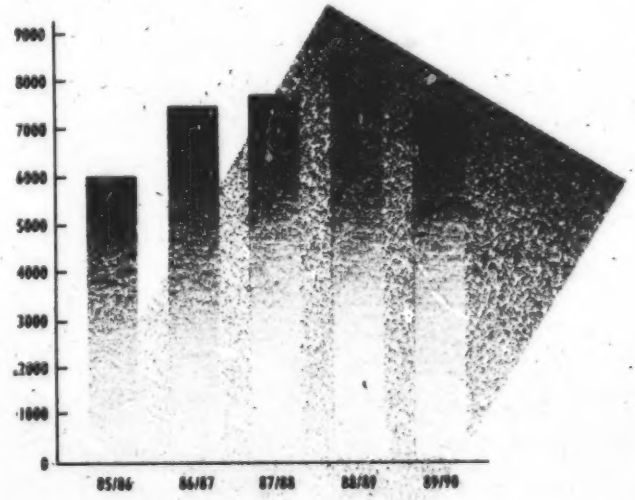
Type	Number Issued
Forest Management Agreement (Alberta Newsprint, Daishowa)	2
Coniferous Timber Quota (CTQ)	7
Deciduous Timber Allocation (DTA)	0
Licences:	
Coniferous, CTQ	29
Deciduous, DTA	0
Commercial Timber Permits:	
Coniferous (green)	74
Coniferous (dead/damaged)	3
Deciduous (green)	6
Deciduous (dead/damaged)	2
Local Timber Permits	1,146
Forest Product Tags	21,729
Christmas Tree Permits	7,996
Total Timber Dispositions Issued	**30,994**

Deciduous Timber Harvest Thousand Cubic Metres



Source: Alberta Forest Service

Coniferous Timber Harvest Thousand Cubic Metres



Source: Alberta Forest Service

The annual allowable harvest of coniferous and deciduous timber from provincial public lands is approximately 21.7 million cubic metres. During 1989-90, a total of 8,827,849 cubic metres of timber was cut. This represents a decrease of 8.47 per cent over 1988-89, and is due, in part, to increased sales of wood chips. Timber harvested was primarily used in the manufacturing of pulp, lumber and panel products. Sawlogs and peeler logs accounted for 92 per cent while seven per cent was in the form of pulpwood.

Coniferous and deciduous timber harvests were 7,425,569 cubic metres and 1,402,280 cubic metres—84 per cent and 16 per cent of the total, respectively. The province's forests also provided the public with 35,385 Christmas trees and 8,130 transplants.

A total of 30,993 timber dispositions were issued, a 6.22 per cent decrease over the 33,050 issued in 1988-89. Only 122 of these are considered major dispositions, with the remainder being Local Timber, Forest Product and Christmas Tree permits.

Reforestation

Reforestation surveys were conducted by the Alberta Forest Service (AFS) on 18,528 hectares of cutover land. As well, a number of silviculture treatments were completed by AFS including mechanical scarification of 7,082 hectares, seeding of 1,007 hectares, planting of 4,957 hectares (6,531,254 seedlings) and thinning of 606 hectares. Cone collection by AFS totalled 1,282 hectolitres of pine and 10 hectolitres of spruce.

The silviculture program continued the maintenance of areas developed under the Maintaining Our Forest (MOF) program. Silviculture treatments completed on MOF areas included site preparation of 450 hectares, planting of 1,259 hectares (1,565,086 seedlings), hand cleaning of 3,710 hectares and machine cleaning of 3,787 hectares.

The genetics and tree-improvement program focused on White spruce, Lodgepole pine and Douglas fir. Superior trees were selected in central and northern Alberta forests, and the genetics seed bank was expanded. Planting stock was produced for research plantings, expanding existing seed orchards and establishing new seed orchards. Planning began on a new aspen and poplar hardwoods improvement project.

Pine Ridge Forest Nursery

Cones are collected by Alberta Forest Service (AFS) and the forest industry and sent to the nursery where seeds are extracted, tested and stored for the production of tree seedlings for reforestation programs. This activity kept pace with expected increases in seedling demand.

Two types of tree seedlings, bareroot and container, are grown at the Pine Ridge Forest Nursery. The Container Seedling Program shipped 12,478,280 seedlings for planting in 1989-90. The Bareroot Program grows seedlings in prepared fields or nursery beds. The 1989-90 inventory shows 36,648,827 bareroot seedlings were in nursery beds and 7,193,836 seedlings were shipped for planting. Combined shipping of container and bareroot seedlings amounted to 19,672,116. A total of 231,595,500 seedlings have been shipped from Pine Ridge since 1978.

Forest Protection

The fall, winter and spring precipitation during the fire season was well below average, resulting in a very dry belt stretching from the British Columbia border through north-central Alberta to the Saskatchewan border for the fifth consecutive year.

These dry conditions, combined with high winds, produced very high fire activity across the central and north-central portions of Alberta, from late April through the first part of June.

Lightning activity was extremely heavy throughout July and into August. The majority of the storms in July were in the west and central parts of the province and were very wet. However, action was still taken on 121 fires during the month. August storms were on the dry side in the north and eastern areas. There were 144 fire starts in the first 14 days of August, with 114 of these occurring in a four-day period.

With a year-end tally of 795 fires in Alberta, fast and effective responses limited losses to 6,411 hectares burned within the forest protection area.

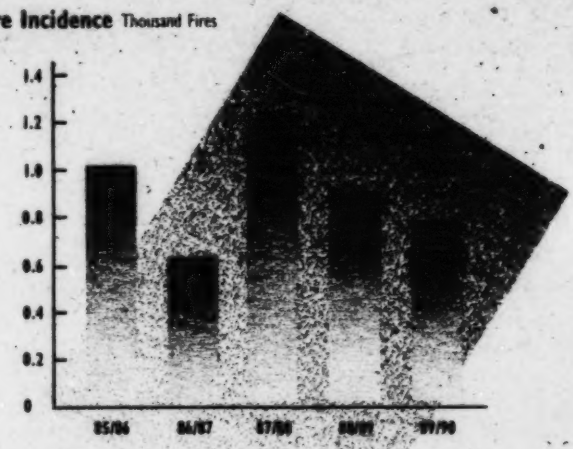
In addition, Alberta provided mutual aid to four provinces and the Yukon in the form of fire crews, overhead personnel, airtankers and equipment. Airtankers were used on 238 fires, of which 95 fires were mutual aid to Ontario, Manitoba, Saskatchewan and the Northwest Territories. No changes occurred in the government-owned or contracted aircraft.

The Alberta Forest Service did a significant amount of work in forest insect and disease management during 1989-90.

Spruce budworm infestation expanded to a total of 85,000 hectares. The largest infestation covered 79,000 hectares of the Footner Lake Forest. For the first time in Alberta, a biological insecticide (B.t.) was used to manage 1,000 hectares of spruce budworm infestation in the Grande Prairie Forest.

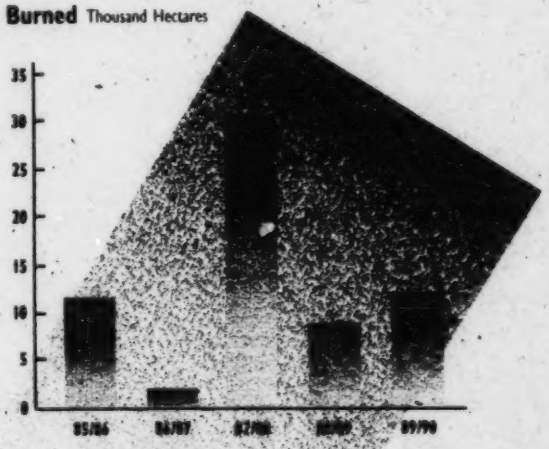
The ongoing survey of the mountain pine beetle, now considered to be in the endemic stage, resulted in the control of 415 local infestations in the Bow/Crow Forest. Pheromone-baited trees were used to monitor movement of mountain pine beetle from British Columbia. Forest tent caterpillar defoliation declined to 1.7 million hectares of deciduous forest.

Fire Incidence Thousand Fires



Source: Alberta Forest Service

Area Burned Thousand Hectares



Source: Alberta Forest Service

Forest Research

The Alberta Forest Research Advisory Council continued to establish and coordinate forest research priorities and make recommendations to the Minister regarding allocation of funds from the Forest Development Research Trust Fund. Council members, representing industry, government and academia, struck four task forces to further define research priorities in the areas of forest management, environment, forest protection and product development.

The offices of the Forest Research Branch were relocated to Edmonton and laboratory space was secured at the Northern Forestry Centre. These moves have increased the profile and communication between the branch, AFS and other research agencies.

The branch launched a newsletter series to communicate research activities and results to the field offices. *Branching Out...the Forest Research Connection* includes short summaries of research projects and applicable research done elsewhere; it will be published three times yearly.

The growth and yield program continued with the stand dynamics project as its major focus. This involved continued remeasurements of trees on permanent sample plots, which were established on cutover areas, to monitor growth of managed forests. In accordance with the AFS growth and yield strategy, a mixedwood growth model was developed under contract. In addition, calibration of a major American growth model to match Alberta species and growing conditions was started. Both models are expected to assist in refining estimates of future yields from Alberta's managed forests.

The Forest Research Branch assumed AFS responsibility for reclamation, including the operational aspects of the program. Participation on reclamation research was through the interdepartmental Reclamation Research Technical Advisory Committee. Reclamation activities concentrated on management and funding of research into reclamation problems associated with land disturbances resulting from industrial activity such as oil and gas field development.

Various studies of planted seedling growth and response to innovative treatments were completed. Work continued on the control of grass competition around newly-planted seedlings. Additional studies were initiated to monitor various mechanical methods of controlling aspen competition on established coniferous plantations. All silviculture research conducted by the branch is in direct support of field operations, thereby leading to immediate improvement in reforestation success.

Community Relations

A growing interest in the environment has resulted in increased levels of direct public involvement in resource management planning. In cooperation with industry, the groundwork was carried out for a new policy for public involvement in forest management planning. This public involvement program facilitates direct communications between the public and the people responsible for developing forest management plans. The program also recognizes that forest management is an ongoing process that must be responsive to changing conditions.

The Minister appointed an Expert Review Panel to provide advice on public concerns regarding the expanding forest industry and about the state of forest management in Alberta. The panel used information contained in a report commissioned by the Minister to summarize information gathered at open houses and public meetings held in early 1989.

Forestry Youth Programs

During 1989-90, the Junior Forest Warden (JFW) program continued to increase in popularity. Supported by AFS, this program gives young Albertans, six to 18 years of age, the opportunity to develop hands on appreciation, awareness, respect and responsibility for our natural environment.

Highlights of the year included forest resource tours, outreach programs, an expanded summer camp program, and a national campout in British Columbia. By the end of the fiscal year, the program had grown to include 750 volunteers and close to 3,500 junior wardens in 86 communities.

The Junior Forest Ranger Work Experience program provided valuable experience and employment in forest management to more than 90 young men and women between the ages of 16 and 18. Seven camps were operated within the province. Conservation projects, from tree planting to campsite development and backcountry cleanups were completed, involving 4,000 man-days.

Forest Land Use

Recreation

Alberta's forested lands provide enjoyment for hundreds of thousands of people every year. Camping, canoeing, snowmobiling, cross-country skiing, fishing, and horseback riding are just a few of the activities that draw residents and tourists alike to Alberta's great outdoors. Management of our forest lands for these outdoor activities is the primary focus of the AFS recreation program.

During 1989-90, demand on forested lands for backcountry random use and facilities, increased. Management of backcountry recreation activities has become a primary focus. This includes the development of standards for use of backcountry areas, development of interpretive trails, implementation of patrols to monitor backcountry activity, and continued operation of existing support facilities, such as campgrounds and staging areas.

As demands for the use of public land grow, so does the competition between users. Input from the private industry and the public as a whole is important in making decisions regarding land use and recreational opportunities provided by AFS. The draft Castle River Access Management Plan, initiated in 1988 to resolve conflict related to motorized recreational activities, was completed during 1989-90 and presented to the public for review and input. The proposal generated a great deal of interest. Revisions to the draft plan are being undertaken by the working group, with a final plan to be completed in early 1991.

A volunteer campground-host pilot program carried out during 1988 proved to be so successful that it became part of the recreation program in 1989-90. Volunteers temporarily reside in campgrounds and raise the profile of AFS by providing information on recreation programs and provincial regulations.

Protected Areas

Protected areas on forested lands in the Green Area and how they are managed are of increasing interest to the public. AFS, through its protected lands program, now manages 11 Natural Areas, eight Ecological Reserves and 34 candidate Natural Areas. During 1989-90, draft management plans were developed by field staff, with input from other agencies and the public, for Otauwau, Saulteaux and Alexo Natural Areas and for Goose Mountain and Upper Bob Creek Ecological Reserves. Four of the Natural Areas placed under protective notation in 1989-90 are in the Green Area and will contribute to the growing area of forested lands now formally protected under legislation and managed by AFS.

Range Resource

Rangelands in the Green Area are managed by AFS, and in 1989-90 provided more than 182,000 animal unit months of grazing for domestic livestock. Range management plans, prepared in consultation with various land users, outline ways to enhance forage productivity and the condition of the range resource, as well as how to promote environmental quality including water, soil and wildlife needs. Activities to improve or maintain existing conditions on rangelands, such as brush control, seeding, fencing and water systems development, were carried out in the Green Area at a cost of approximately $150,000. Rangeland reference areas continue to be monitored to determine long-term vegetation changes and range-species trend comparisons for grazed and ungrazed sites.

Research on range ecosystems has been ongoing. Near Grande Prairie, forages were seeded into a logged aspen clearcut. Results have indicated positive benefits for forage production and enhanced livestock use. As well, mutual benefits have occurred for aspen regeneration. The volume of growth of the young aspen has been about one and a half times greater on the grazed site as compared to the ungrazed area. Research needs to be continued in this important facet of multiple land use.

Environmental Protection

Protection and enhancement of the forest environment is a critical component in the management of the province's forested lands. Ensuring adequate protection of the watershed is a primary AFS goal. To help achieve this goal, there were a number of new initiatives during 1989-90. AFS has maintained a monitoring program in the Bow/Crow Forest to help evaluate the ability of the watershed to deliver a reliable supply of clean water, given ongoing land use activities.

The division continued to provide coordination and support to the department regarding Forestry, Lands and Wildlife involvement in the Land Conservation and Reclamation Council. During 1989-90, more than 4,000 applications were processed and areas were inspected by field staff to monitor reclamation work.

Provincial geophysical guidelines were developed in 1989-90 to establish operating standards related to conducting geophysical exploration on public lands. These standards will help ensure consistent management direction and provide for environmental protection in the conduct of exploration activities.

Integrated Resource Management

The development of policies, plans and procedures related to non-timber values on forested lands involves input from a large group to ensure integrated resource management. Input is also required in the review of requests from the public and industry for commercial use of forest resources. Consultation and involvement of interested parties is a task that is facilitated through a coordination and referral process. During 1989-90, as part of the referral process, more than 4,500 applications for use of public land were processed, 200 road referrals were evaluated, and more than 800 seismic programs were approved. Field staff carried out more than 8,000 inspections associated with industrial and commercial use of forested lands.

Forest Industry Development

The forest industry pre-dates Alberta's origins as a province in 1905. Although initially based on logging activity and lumber manufacturing, by the mid-80s the industry had diversified appreciably. Alberta products now include oriented strandboard (OSB), bleached kraft pulp (BKP), chemi-thermo-mechanical pulp (CTMP), medium density fibreboard (MDF) and plywood.

The phenomenal success that Alberta has had in attracting more than $3.5 billion of new forest industry investment is not accidental. In 1985, the government embarked on a forest industry diversification strategy for Alberta's economy. One component was the increased utilization of Alberta's uncommitted timber resources. Although the province had an established and successful policy of sustained-yield management, the opportunities offered by the available forest resources needed to be developed. The government had to actively attract new projects and overcome investment barriers such as lack of infrastructure, high transportation costs and the enormous capital required to develop the resource.

The construction of a CTMP mill at Whitecourt in 1988 signalled the beginning of significant expansion in the forest industry. By the end of this century, it is expected that the value of primary forest product shipments will be more than triple the 1987 levels.

By the end of 1990, construction is scheduled to be completed on four major projects that will increase Alberta's pulp and paper capacity 275 per cent. These four, Weldwood of Canada's pulp mill expansion at Hinton, Alberta Newsprint's CTMP/newsprint mill in Whitecourt, Alberta Energy's CTMP mill at Slave Lake, and Daishowa Canada's pulp mill at Peace River represent a capital investment of $1.5 billion.

The forest industry has always been a reliable source of employment for many communities and in some, serves as the only major employer. Its relative significance to Alberta's economy will increase dramatically over the next decade. Permanent job creation (direct and indirect) is estimated to be approximately 12,000 if all the announced projects proceed. Even more exciting is the prospect of additional mill expansions and downstream industry in the form of paper mills.

Forest Products Research

Much of Alberta's new capital investment is based on the utilization of the province's aspen resource. Forest products research has been an essential element in the development of the aspen resource, which had not previously been considered to have commercial value.

Various research projects are aimed at keeping Alberta on the leading edge of forest product technology and development to assist new and existing forest product companies and enhance the utilization (both value and volume) of Alberta's forest resource.

Projects Funded at the Alberta Research Council

- Time-dependent behaviour of Alberta's panel products in service conditions.
- Acceptance of Alberta forest products in offshore markets.
- Treatments to improve dimensional stability of oriented strandboard (OSB).
- Pilot and commercial trials of mixed Alberta wood species for the manufacture of OSB.
- Short- and long-term structural performance of stress skin panels made with Alberta panel products.

Major Forest Industry Development Projects

Company	Location	Description	Estimated Capital Cost ($)MM	Estimated Employment Direct	Indirect	Status/ Completion Date
Daishowa Canada Co. Ltd.	Peace River	Greenfield BKP mill	550	600	1,200	July/90
Alberta Newsprint Co. Ltd.	Whitecourt	Greenfield CTMP/newsprint mill	406	375	750	August/90
Weldwood of Canada Ltd.	Hinton	Double capacity of a BKP mill	419	370	740	January/90
Weldwood of Canada Ltd.	Hinton	New sawmill	70	120	180	Delayed
Alberta Energy Co. Ltd.	Slave Lake	Greenfield CTMP mill	168	122	245	December/90
Alberta-Pacific Forest Industries Inc.	Athabasca	Greenfield BKP mill and fine paper mill	1,300*	1,300	2,600	Approval delayed pending scientific review
Procter & Gamble Cellulose Ltd.	Grande Prairie	Expansion of BKP mill and sawmill	365*	300	600	Delayed pending environmental
Procter & Gamble Cellulose Ltd.	Manning	Sawmill	35*	250	375	studies and approvals
Sunpine Forest Products Ltd.	Rocky Mountain House	Sawmill complex and fibreboard plant	33	267	400	Mid/92
TOTAL			3,346	3,704	7,090	

CTMP = chemi-thermo-mechanical pulp
BKP = bleached kraft pulp

Forest Industry Investment committed during the past few years has totalled more than $3.5 billion of new capital and will lead to the creation of more than 12,000 direct and indirect jobs.

* Delays in the start of construction will likely increase capital costs.

Current research projects with industry

COMPANY	DESCRIPTION
Weldwood of Canada Ltd.	Commercial trial of a new high moisture content-tolerant resin to improve dimension stability.
Alberta Energy Co. Ltd.	Commercial trial for sorting frozen and unfrozen lumber into different moisture content categories.
International Log Homes	Feasibility of using black poplar for natural and shaped log building construction.
Millar Western Pulp Ltd.	Pilot trial of micro dissolved air flotation system to improve the removal of colloids from CTMP effluents.
Silvacom Ltd.	Economic and technical feasibility of wood residue utilization in southern Alberta.
DIKA Industries Ltd.	Market assessment of processing equipment designed for short logs.

Current strategic projects

COMPANY	DESCRIPTION
Petroleum Research Institute	Technical feasibility of using wood lignin in oil recovery processes.
Building Products Co. Ltd. (BPCO)	New product development based on the use of recycled paper.

Renewable Resource Development

In conjunction with Alberta's timber resource strategy, there are parallel efforts in other forms of renewable resource development. These include commercial recreation projects, such as four-season resort complexes, golf courses and lodge developments. Provincial, national and international tourism and recreation industries were assisted to promote and facilitate renewable resource investment in Alberta.

L S

Alberta is rich in public land and resources that yield a variety of important environmental, social and economic benefits. The key to providing for many uses in a manner that protects and conserves these precious resources is integrated resource management.

To make effective management decisions, complete and current land-related information is essential. Alberta Forestry, Lands and Wildlife not only administers and manages public land, the department provides an integrated surveying, mapping and land information base to serve government, private sector and general public needs.

PUBLIC LANDS

The total area of Alberta is 661,185 square kilometres or some 66 million hectares. About 62 per cent is under provincial control as public land and more than 60 per cent of all land, largely the forested regions, is not settled.

About 2.87 million hectares of public land are under disposition not leading to title (lease, permit or licence). This amounts to 4.3 per cent of the entire province. This includes 2.25 million hectares of grazing leases and permits, 3.4 per cent of the province. Another 0.24 million hectares are under disposition leading to title; for example, these lands are currently under sale agreement. This totals 0.4 per cent of the province.

Protected Lands

A significant portion of public land in Alberta has been given protected status for conservation, recreation, ecological and other purposes.

Natural Areas protect sensitive or scenic public land from disturbance and ensure public land is available in a natural state for use by the public for recreation, education and natural heritage-appreciation activities. Six new sites (Canmore Flats, Caribou River, Fourth Creek, La Saline, McGregor Lake, White Earth Valley), totalling 9,726 hectares, were placed under protective notation for Natural Area purposes. By the end of 1989-90, there were 112 designated Natural Areas totalling 30,320 hectares and 157 sites totalling 77,700 hectares under protective notation.

The Volunteer Steward Program enlists the support of individuals, groups, organizations and corporations to assist with on-site management of Natural Areas. By the end of 1989-90, there were 155 stewards registered with the program.

Disposition Activity Highlights

The number of dispositions in effect on public land relating to oil and gas development increased by 10 per cent in 1989-90 to 55,503. New applications decreased by 15 per cent. Mineral surface lease applications decreased from 2,030 to 1,641, a drop of 20 per cent over the previous year. Licences of occupation decreased 15 per cent from 1,459 to 1,227 and pipeline agreements from 927 to 867, a decrease of 10 per cent over last year.

Non-industrial applications increased by 10 per cent during the year, largely attributed to the interest in developing tourism-related facilities. In 1989, the Commercial Tourism and Recreational Leasing (CTRL) process, a four stage interdepartmental review process, was implemented for major commercial and recreational tourism applications requiring the disposition of public land. By March 1990, approximately 40 CTRL application reviews were completed or underway.

Reclamation

Land leased for industrial purposes must be reclaimed or restored by the lessee to its natural state. During 1989-90, four contracts totalling $33,900 were awarded by the department to reclaim two abandoned gravel pits, an abandoned borrow pit and the site of a demolished cement plant. These were funded through the Alberta Heritage Savings Trust Fund. The Public Lands Division provided an additional $32,200 for 17 projects including debris cleanup, gravel pit reclamation, reseeding of disturbed areas and wellsite soil sample analysis.

Aggregate Inventory

Since 1978, an aggregate inventory has been conducted in conjunction with the Alberta Research Council and the Alberta Forest Service. The inventory assists in making decisions about land management, resource planning and appropriate allocation of the resource. Approximately 55 per cent of the province has been inventoried.

During 1989-90, the inventory focused on the east half of the municipal district of Provost, an area with dwindling gravel reserves.

Surface materials (mainly aggregate) generated $1.7 million in revenue for the 1989-90 fiscal year. Royalties accounted for $1.4 million of the revenue. Surcharges, rental charges and fees made up the balance.

Status of Lands in Alberta

Type	Area (km)	Area (mi.)	% of Alberta
Privately Owned Land	185,570	71,649	28.1
Public Lands			
Under Disposition Leading to Title	2,401	927	0.4
Under Disposition Not Leading to Title	28,686	11,076	4.3
Special Areas (a)	11,743	4,534	1.8
Provincial Parks, Wilderness Areas, Rec. Areas	2,448	945	0.6
Willmore Park, Natural Areas, Ecological Reserves	5,113	1,974	0.8
Metis Settlements	5,053	1,951	0.8
Indian Reserves	6,610	2,552	1.0
Non-Settled Public Lands			
Forested Lands Within the Green Area (b)	261,407	100,930	39.5
Forest Management Agreement Areas	71,704	27,685	10.8
Vacant Public Land (within White Area) (c)	17,337	6,694	2.6
Federally Controlled Lands (National Parks, Research Stations, Department of National Defence, etc.)	63,113	24,368	9.5
TOTAL AREA OF ALBERTA	661,185	255,285	100.0
LAND	644,389	248,800	97.5
WATER	16,796	6,485	2.5

SOURCE: Public Lands Division (as of March 31, 1990)

(a) Includes some tax recovery lands.
(b) Green Area: Forested lands withdrawn from settlement, managed for forestry and other multiple uses.
(c) White Area: The settled area of the province including the settled area of the Peace River Region. Public lands in this area are managed for multiple use, including agricultural uses, pursuant to the *Public Lands Act and Regulations*.

Grazing Reserves

The Grazing Reserve Program provides summer pasture in the White Area for the livestock of small-scale farmers and ranchers, freeing their privately owned lands for crop and hay production. The program helps to diversify and stabilize the agricultural industry in the province.

There are 32 grazing reserves in Alberta, covering 0.29 million hectares. In 1989, the reserves accommodated 304,083 animal unit months of livestock grazing, which represents 84,192 mature head of livestock. A total of 1,725 patrons benefitted from the program.

During 1989-90, the division contributed to the development of grazing reserve areas, with contracts totalling $851,863 for working down, seeding, reseeding, regrowth control, fertilizing, fencing, construction of dugouts and irrigation.

Range Improvement

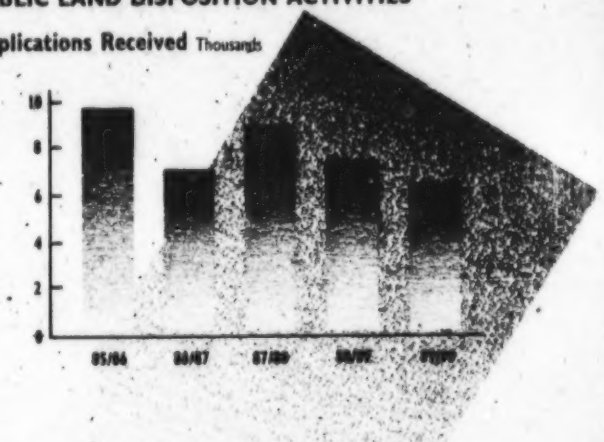
The Range Improvement Program provides assistance on a cost-shared basis to farmers holding grazing dispositions in both White and Green Areas of the province. Livestock producers are assisted in maintaining and increasing the carrying capacity of grazing leases, permits and licences.

Improvements are developed on a planned basis, which recognizes the sustained yield of the native and tame forage resource. Each plan incorporates the importance of other multiple uses such as wildlife habitat, forestry and recreation. Projects undertaken on grazing leases include clearing, forage establishment, crossfencing, dugouts, trail development and brush control management.

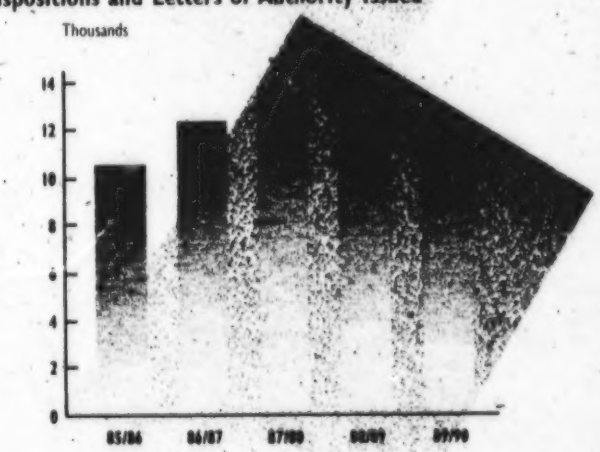
In the 1989-90 fiscal year, the Range Improvement Program funded 450 ongoing projects in the White Area for a total of $876,000. Since the beginning of the program, 1,292 Range Improvement Agreements, generally consisting of several range development projects, have been initiated. These completed agreements between the grazing disposition holder and the department have provided increased forage or have offset declines in carrying capacities from brush encroachment.

PUBLIC LAND DISPOSITION ACTIVITIES

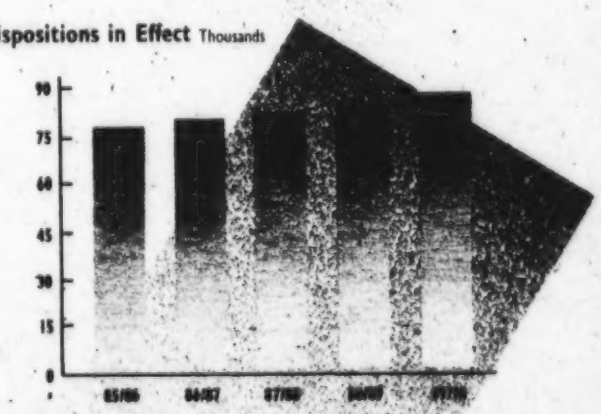
Applications Received Thousands



Dispositions and Letters of Authority Issued



Dispositions in Effect Thousands



Source: Public Lands Division

Range Management

The Range Management Program provides professional and technical support, focusing on range management needs, opportunities and integrated resource management on public grazing land.

In 1989-90, inventories and range resource management plans were developed for 18,225 hectares in the White Area. The program focus included planned grazing systems for range enhancement and conservation, rangeland monitoring, pasture development and maintenance, and biological weed control. The effect of recent drought conditions and a growing public demand for multiple use from public rangelands led to an increased need for extension services during the past year.

Integrated Resource Planning

The integrated resource planning program continues to be a primary means of achieving the Government of Alberta's philosophy of integrated resource management. The integrated resource plan (IRP) becomes the resource management policy for public land and resources in the planning area. Each IRP requires approval of the Minister of Forestry, Lands and Wildlife and/or a Cabinet committee. A major area of emphasis in the planning program over the past year has been the refinement of the public involvement component to achieve greater effectiveness.

Crown Lands with Status in Alberta

	Number of Sites	Area (km)	% of Alberta
Legislated Sites			
National Parks	5	54,084	
Forest Land Use Zones	10	5,501	
Willmore Wilderness Park	1	4,597	
Forest Recreation Areas	173	1,214	
Provincial Parks	61	1,262	
Wilderness Areas	3	1,010	
Natural Areas	110	303	
Ecological Reserves	11	214	
Provincial Bird Sanctuaries	7	392	
Migratory Bird Sanctuaries	4	142	
Provincial Wildlife Areas	1	58	
Wildlife Habitat Development Areas	2	30	
National Wildlife Areas	3	4	
Provincial Recreation Areas	126	153	
Historic Sites	1	9	
TOTAL		**68,973**	**10.4**
Under Protective Zoning			
In Eastern Slopes			
Prime Protection		12,794	
Critical Wildlife		5,932	
Within IRPs Outside the Eastern Slopes		2,728	
TOTAL		**21,454**	**3.2**
Under Protective Reservation*			
Forest Recreation Areas	295	1,466	
Provincial Parks/Provincial Rec. Areas (CNT)	9	1,685	
Provincial Parks/Provincial Rec. Areas (PNT)	25	515	
Natural Areas (PNT)	171	755	
Ecological Reserves (PNT)	4	89	
TOTAL		**4,510**	**0.7**

* Under Consultative Notation/Protective Notation
Source: Resource Planning Branch (as of March 31, 1990)

Public Involvement Program

People participating in the public involvement program have the opportunity to make their ideas and opinions known so that IRPs reflect the views of many Albertans. Public participation is encouraged in reviewing drafts of the terms of reference and the plan during the plan preparation stage, as well as during any plan review and amendment. In addition, the public is kept informed through two publications, *Planner's Update* and *Planning in Progress*. Public events such as open houses, information exchange sessions and round table meetings, provide specific opportunities for the public to voice concerns. During the year, four open houses and information exchange sessions were held on specific planning projects.

Under the integrated resource planning program, one regional plan, 13 sub-regional plans and seven local plans were approved. During the past year, work progressed on several IRPs.

Southern Region

The Poll Haven Local IRP was approved by the Minister. A draft Southern Region IRP was prepared and submitted to the Southern Regional Resource Management Committee (RRMC) for review and comment.

Progress on the Crowsnest Corridor Local IRP, continued during the past year. During the fall of 1989, public meetings were held and a public input summary was completed. The draft plan was revised and the document endorsed by the Southern RRMC.

Central Region

Two planning projects were active in the Central Region. A draft plan for the Central Region was submitted to the Central RRMC and subsequently revised.

A draft copy of the Eden Valley Local IRP underwent public review. A public input summary was completed and the IRP revised. Endorsement from the Central RRMC was received. The final plan is awaiting Natural Resources Advisory Committee endorsement.

Eastern Slopes Region

Progress was made on one sub-regional plan and three local plans. The public input summary for the draft Coal Branch Sub-Regional IRP was distributed in June. The revised draft plan subsequently received endorsement from the Eastern Slopes RRMC, the Resource Integration Committee; the Natural Resources Advisory Committee and the Natural Resources Coordinating Council.

Among the local plans, the David Thompson Corridor IRP and the Athabasca River Sandhills IRP were at the draft plan preparation stage in March. The Bow Corridor IRP will provide policy direction and land allocation for an area that is the focus of tremendous public interest.

Three sub-regional plans (the Yellowhead North IRP, the Fox Creek-Knight IRP and the Berland IRP) were deferred until the completion of other plans currently in progress and the resolution of outstanding wildlife management issues.

Public Involvement Program

Northeast Region

Three planning projects were active. Development continued on the draft Northeast Region IRP, following review by the Northeast RRMC and the Resource Integration Committee. The Fort McMurray-Athabasca Oil Sands Sub-Regional IRP and the Cold Lake Local IRP are at the draft plan preparation stage.

Peace River Region

Work continued on three planning projects.

The Peace River Region IRP effort continued at the draft plan preparation stage. A working paper was incorporated into the draft plan in March.

The draft Grande Prairie County West IRP was endorsed by the Peace River RRMC. This document underwent public review and, following preparation of a public input summary, the revised draft underwent another public review in March.

Recreation Sites in the Lower Peace Valley, a project prepared by an interagency study team, was endorsed by its steering committee which included representation from the local improvement districts and the Peace River RRMC.

Land Information Services

The Land Information Services Division provides land and resource information products and services to the department, other government departments and the public. These include survey control, mapping in support of provincial and municipal digital base mapping, resource information (data collection and analysis) service, the coordination of the development of the provincial Land-Related Information System, the distribution and sale of maps and land information products and the administration of land survey legislation.

Geographical Positioning

Framework Survey Control: The basic survey control network for the province consists of 6,880 survey control markers. The Geodetic Computations Group executes mathematical adjustments and analysis to generate coordinated positions of survey markers from field observations. This group also undertakes the management and distribution of this data to users. Work continued during the year on preparation for the readjustment of the Alberta framework to match the newly adjusted Canadian control framework.

Alberta Township System Coordination: This program consists of integrating the Alberta Township and Alberta Survey Control systems through field measurements, and subsequently computing the coordinates of 800,000 governing monuments and key positions in the township system.

Work continued on the Multipurpose Alberta Survey Control Operations and Task (MASCOT) system. This included completion of some 230 service requests as well as completion of several "transition" items.

Photogrammetric Control: A total of 5,477 models were indexed during 1989-90, bringing the total models indexed to 46,630. Control services continued to be provided to users within the government and private industry.

Municipal Integrated Surveying and Mapping

Municipal Survey Control: Provides the geographical positioning system or survey control component of the Municipal Integrated Surveying and Mapping (MISAM) program as administered under municipal/provincial cost-shared agreements. There are 68 municipalities now under formal agreement in the MISAM program.

The towns of Lacombe and High River entered into agreement under the MISAM program during 1989-90, and a total of 218 Alberta Survey Control (ASC) markers were established. Service agreements with two land survey consultants totalling $102,500 provided for the reconnaissance, design, installation and measurement of survey control in the two towns.

The section also approved the design and issued instructions for 56 ASC projects initiated by municipalities under the MISAM program. A total of 206 new ASC monuments were established.

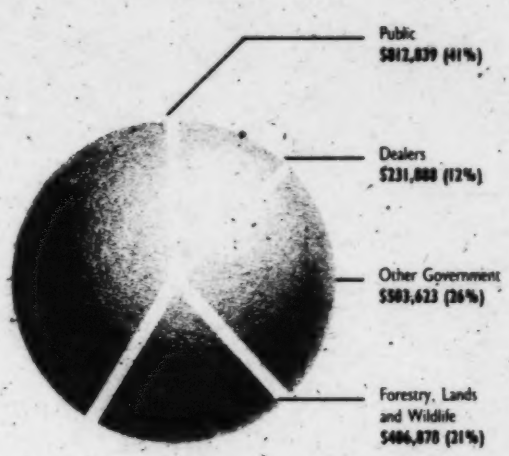
Cadastral Mapping: The Cadastral Mapping Section is responsible for the development and maintenance of land survey coordinates and digital cadastral map bases at a scale of 1:1 000 for Alberta's major urban centres. From the 1:1 000 bases, 1:5 000 digital map bases are created and combined with contour (one metre) and orthophoto components. The contour component is derived from a Digital Elevation Model (DEM) obtained photogrammetrically for the area.

In total, coordinates for 1,015 new and 1,131 revised 1:1 000 bases were generated. Maps for 741 new and 1,317 revised 1:1 000 bases, 34 new and 136 revised 1:5 000 bases and 18, 1:5 000 orthophoto/contour/cadastral bases were completed. In addition, 2,237 digital files and 642 hard copy bases were distributed to users.

Parcel Mapping

The Parcel Mapping Information System (PARIS), a project management computer system, was designed, developed, tested and implemented. Parcel Mapping Quality Control Specifications were written and two contracts were awarded to facilitate the quality control of the 96 township files that were compiled in 1988-89.

Maps Alberta Sales 1989/90



Provincial Base Mapping

Small Scale: The 1:2 000 000, 1:1 000 000, and 1:750 000 digital files (positional and representational) are current and maintained on an ongoing basis.

The final 12 digital files were updated, bringing to 50 the number of files that give full provincial coverage at 1:250 000. All files are current and maintained on an ongoing basis. A number (31) of multicoloured maps were produced using these files.

All 16 digital files in the 1:20 000 city series are now complete. These are Airdrie, Calgary, Camrose, Drumheller, Edmonton, Fort Saskatchewan, Fort McMurray, Grande Prairie, Leduc, Lethbridge, Lloydminster, Medicine Hat, Red Deer, St. Albert, Spruce Grove and Wetaskiwin. In addition to budgeted services, 63 mapping projects were completed through the revolving fund.

In total, 123 maps, 165 base maps, 298 bases, 1,124 prints, 85 miscellaneous charts and graphs and 294 digital files were created, maintained or distributed to users.

1:20 000 Scale Provincial Digital Base Mapping Project: The project was successfully transferred to the Provincial Mapping Section, Surveying and Mapping Branch. Contracting of 234 digital files was completed as planned. To date, 1,835 digital files have been completed, leaving a total of 940 to be completed over the next five years.

Through Maps Alberta, 1,617 diazo prints were distributed, an increase of 457 from the previous year. Digital sales totalled 2,465 for 1989-90. Additionally, 900 files were updated and maintained for certain feature classifications.

Resource Information Services

The Resource Information Program consists of aerial photography, remote sensing, resource inventory and analysis, resource information management, resource mapping and graphic services.

Aerial Photography: During 1989-90, there were 192 individual areas photographed, covering more than 111,000 square kilometres. This represents over 39,000 line kilometres, roughly equivalent to a line of photography once around the earth. The use of semi-controlled and uncontrolled mosaics doubled over the previous year with more than 50 areas completed, covering approximately 6,750 square kilometres.

The reproduction of new and existing aerial photography has shown a steady increase over last year. More than 200,000 contact prints, 8,600 enlargements and 1,500 diapositives were produced for departmental, government and public clients.

Remote Sensing: During its second year, the Remote Sensing Centre continued to provide specialized services to clients throughout the province. Seven projects in support of the department were completed. These projects primarily involved satellite image search, and digital processing and analysis tasks to generate habitat and vegetation cover maps.

Resource Inventory and Analysis: Services and products related to thematic data collection, classification, data analysis and resource evaluation are provided by this section. The Alberta Vegetation Inventory (AVI), formerly named the White Area Inventory, was the focus. This multi-resource inventory for timber, wildlife habitat and grazing land resources neared completion with all 545 townships interpreted and transferred. This database, founded on vegetation information taken from aerial photographs and combined with other resource information such as wildlife, recreation and watershed, will result in a complete digitized picture of the land, allowing for quicker and more effective land management decisions to be made.

Other activities included range surveys, physical land classifications, aggregate inventories, climate data collection and the measurement of permanent sample plots. The resource analysis group participated in integrated resource planning projects for the Eastern Irrigation District, Red Deer River Corridor, and Smoky Lake - Rochester, and provided analysis of wildlife habitat and wetland changes.

Resource Information Management: This unit manages and coordinates the department's natural resource information by identifying what information exists and maintaining a directory and improving access to this information. Approximately 100 requests for existing resource information were serviced. An automated bibliography of branch reports was developed and information guides to support integrated resource planning were compiled.

Natural Resources Information System: Work began on two major departmental systems. A study was completed to determine the feasibility of building a system to store, maintain and distribute digital vegetation data. The first step in building a land disposition mapping system was completed with the development of "area fill" mapping capability. This utility generates a graphic display from text records in the Land Status Automated System. Several applications of Geographic Information Systems capability were undertaken on behalf of resource management agencies.

Resource Mapping: The priority of this unit continued to be the development of automated mapping techniques. In support of the digital AVI mapping, an automated process for polygon label placement requiring a minimum of interactive editing was developed. Other thematic mapping and inventory programs will benefit from this cost-saving process. The graphic services unit completed and delivered more than 63,000 square metres of reproduction materials, over 10,000 exposures and nearly 5,800 Item prints.

Land-Related Information System Project

Land-Related Information Services provides coordination for the orderly development of the province's land-related information systems. Through leadership and strategic planning, it ensures that automated land and resource information programs are introduced in an integrated manner.

Significant progress was made in the development of the Land-Related Information Systems (LRIS) Network in two areas — systems and agency development.

The first three systems development steps, the Project Initiation, Project Definition and Proposals For Solution were completed. As well, initial work began on the development of an LRIS Business agency.

Land Survey System

Preservation and Maintenance: A total of 481 new survey plans were examined for compliance with related legislation, and approximately 5,500 survey plans were entered into the Land Survey Document System (LSDS) and indexed on hard copy township diagrams. A total of 19 inspection surveys were conducted and one resurvey is in progress.

A total of 294 registered plans were given a cursory examination to determine the quality of land surveys in the province.

Distribution Services

To ensure users have ready access to divisional products and services, "Maps Alberta" provides a distribution network. Maps Alberta offices are located in Edmonton and Calgary, while a network of some 90 dealers (from the private sector) provides access in all major centres throughout Alberta. This year's overall sales reached $1,955,228.

FISH AND WILDLIFE

The Fish and Wildlife Division is responsible for the management of Alberta's fish and wildlife resources, as well as the regulation of ecologically sound harvesting practices. Objectives include maintenance and protection of rare species, restoration of threatened populations, establishment of population goals, control of problem wildlife and improvement of habitat. The division enforces hunting, fishing and trapping legislation. It is responsible for delivering numerous public education programs to educators, anglers, hunters and commercial trappers, and is also responsible for monitoring commercial users such as fishing and guiding-outfitting.

Program Support Branch

In cooperation with Ducks Unlimited Canada, the division developed a collectable hobby stamp that generated more than $50,000 of revenue for the province. The original artwork for the stamp is used in Ducks Unlimited promotions and for limited print productions.

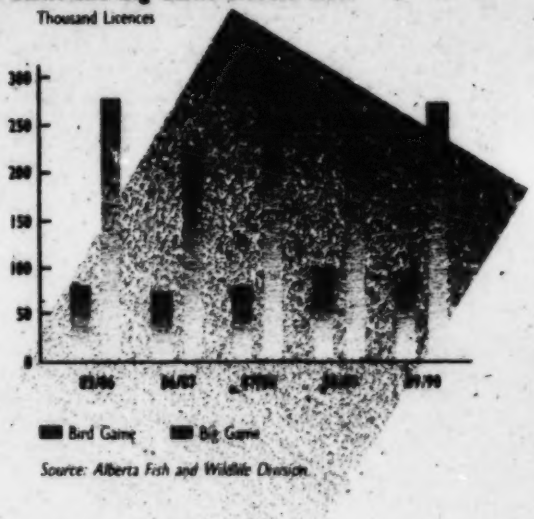
In April, the division celebrated 25 years of Fish and Wildlife Conservation Education in Alberta. More than 200,000 Albertans have taken the award-winning Conservation and Hunter Education Program since it was introduced in 1964. Approximately 1,300 volunteer instructors presented the program to over 15,000 Albertans in 1989-90. Eight thousand students attended one of the Conservation Education camps this year.

Other organized public education programs developed and conducted by the division included Trapper Education and Fishing Education. The compulsory hunter test program for all first-time hunters was continued.

Fishing Education has proven to be an excellent companion to the Conservation and Hunter Education program. Many teachers use both programs in their Environmental and Outdoor Education curriculum. Almost 7,145 students were involved in Fishing Education during 1989-90. These numbers are expected to increase as more instructors are trained.

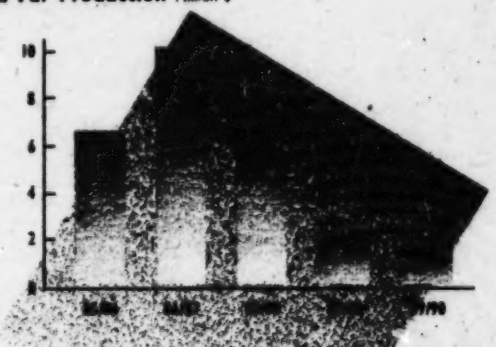
Project WILD continues to be a major success in promoting the value and importance of the fish and wildlife, especially with school-aged children. In 1989-90, 1,339 participants attended 64 workshops. Since the project's introduction in 1984, more than 5,500 teachers and other youth leaders have been trained and 3,800 currently use Project WILD with their student or youth group. These instructors potentially involved over 100,000 youths in at least one Project WILD activity during 1989-90.

Bird Game and Big Game Licence Sales



Source: Alberta Fish and Wildlife Division

Wild Fur Production Million $



Source: Alberta Fish and Wildlife Division

Wildlife Branch

Following a preliminary review of the status, distribution and abundance of wildlife species in Alberta, a scarce species list for each region of the province has been developed. Using these lists as guidelines, divisional staff continue to collect data and report on the observations of these species through an existing record-keeping system.

Restoration of threatened species requires the active cooperation of all Albertans. The production of a comprehensive brochure series on Alberta's Threatened Wildlife was continued with brochures on the peregrine falcon, burrowing owl and ferruginous hawk completed in 1989-90. These brochures are made available to educators and the public to expand their awareness of the needs and risks facing threatened wildlife.

National recovery plans for the peregrine falcon, whooping crane and piping plover were approved. Ferruginous hawk and burrowing owl plans were ready for presentation to the Recovery of Nationally Endangered Wildlife (RENEW) Committee in 1990. A joint cooperative management program for peregrine falcons in Wood Buffalo National Park was continued with Parks Canada. Captive-raised peregrine chicks were fostered to wild nesting pairs to maximize reproductive output (four chicks per nest). A cooperative management and education program was continued with AGT and the Calgary Zoo. Captive young were added to nests in Edmonton and Calgary and live television coverage, as well as educational displays, were used to foster a broader understanding of the plight of this species. During the year, a new peregrine falcon eyrie was found in the Canmore area.

The Prairies for Tomorrow project on Little Fish Lake continued to protect nesting habitat for piping plover. Preliminary range, population and habitat use surveys were completed for the baird sparrow. Fieldwork was carried out to develop inventory and distribution information for the western hognose snake. Provincial range and population decline of leopard frogs was documented and intensive surveys were planned for the summer of 1990. Draft provincial management plans were prepared for the loggerhead shrike and the western blue flag (a threatened plant species).

The division continued a cooperative program of transplanting trumpeter swan goslings from the Grande Prairie area into suitable lakes in Elk Island National Park. Operation Burrowing Owl, a volunteer program to encourage landowners to protect nesting habitat, was continued with the cooperation of the Alberta Fish and Game Association. A comprehensive inventory of white pelican nesting sites was completed, and work continued on the documentation of range and distribution of piping plovers.

A cooperative study with Weldwood of Canada Ltd. was undertaken to determine movement patterns, population structure/size and critical habitats for woodland caribou in Weldwood's Forest Management Agreement area north of Slave Lake.

The division is now in year two of a three-year cooperative agreement among the governments of Alberta and Saskatchewan and the Canadian Wildlife Service to evaluate the feasibility of reintroducing the swift fox to the Canadian prairies. A national recovery team for swift fox is directing management and research for this species (under the RENEW process).

The *Management Plan for Mule Deer in Alberta* was completed and published. Drafts of plans for elk, antelope, bighorn sheep, grizzly bear, cougar and wolf were updated and revised. Draft species management plans were prepared for black bear, moose and mountain goat. These documents provide a basis for regional staff to establish population goals at the wildlife management unit level.

The Alberta Bird Atlas program completed its third year of operation with the participation of more than 2,000 volunteers. It is a volunteer program headed by the Federation of Alberta Naturalists with the cooperation of the division.

Changes in big game recreational hunting regulations were minimal. The new format for the *Guide to Big Game Hunting* was well received by the public.

The Watchable Wildlife Section of the Wildlife Branch produced the *Alberta Wildlife Viewing Guide*, which is available in bookstores. It details 60 of the best wildlife viewing sites throughout the province in full colour photography, complete with site access maps. The section also produced *Alberta's Watchable Wildlife: A Directory of References*, which is free of charge and is available from Fish and Wildlife offices throughout the province.

The division implemented a new Outfitter-Guide Policy to distribute nonresident licences which resulted in revenues of $1,300,000 to the province. Licensed outfitter-guides bid on the allocation of nonresident hunting licences in specific Wildlife Management Units. As a result, all nonresident-alien hunters must contract with a licensed outfitter-guide before obtaining licences.

Continued consultation with trappers and trapper organizations resulted in increased quotas of lynx and fisher for the 1989-90 trapping season. Approximately 2,000 lynx were registered, up from 800 during the previous season, while 800 fisher were registered for the first time. Information obtained from registrations and fisher carcasses, voluntarily submitted by trappers, indicate that increases in quotas can be recommended for the 1990-91 season.

The overall value of furs harvested in 1989-90 declined only five per cent to $2.2 million, compared to the drastic decline of $7.4 million in 1987-88 to $2.3 million in 1988-89. This indicates a stabilization of fur prices while the industry consolidates and reacts to the adverse declines of the past two years. Trapper Education courses were conducted at 23 locations and completed by 290 participants.

Canadian Hunter and Esso petroleum companies contributed financially to an aerial inventory of woodland caribou in the Chinchaga/Fontas area to develop a short-term strategy for protecting the local herd. Home Oil and Wood Buffalo National Park contributed funds to complete an aerial inventory of the Caribou Mountains. This data will be examined to determine conditions that will allow seismic activities to proceed in 1990-91. Daishowa and Weldwood timber companies contributed financially to an ongoing inventory of wildlife in their respective Forest Management Agreement areas.

During the summer of 1989, a survey of the participants in the 1988 Christmas Bird Count was conducted. This survey attempted to collect information on the socio-economic characteristics of participants and their views on the importance of the count as a management tool and social experience. The study will help to plan more effective counts in the future.

Three hundred bighorn sheep were captured and marked on Ram Mountain near Rocky Mountain House. These marked sheep provide a long-term data source for sheep population and productivity studies. Several graduate students have been doing thesis work with this herd over the last 15 years. The Craighead Institute from Montana is currently using blood samples from this herd to do genetic variability research.

Southern Region staff worked with Dr. Luigi Morgantini of the University of Alberta on an elk study south of Highway 3. The purpose of the study was to identify populations, movements and current and critical habitat for further elk management plans.

Research programs concerning parasites and diseases of big game species, particularly elk, were started or completed. A summary of the 1988 survey of parasites in moose, elk, white-tailed deer and mule deer was distributed to Fish and Wildlife offices and a full report prepared for publication. A treatment for giant liver flukes in elk was identified. In cooperation with the University of Alberta, an extensive ongoing program concerning meningeal worm in elk, white-tailed deer, fallow deer, bighorn sheep and mule deer was undertaken. The division supported basic population research on goats, bighorn sheep, elk and deer.

Fisheries Branch

There were 3.4 million trout stocked into 128 lakes, and 17.4 million walleye stocked into 12 lakes throughout the province to provide recreational fishing opportunities. Several existing fishery access sites were maintained through the Fisheries Access Program.

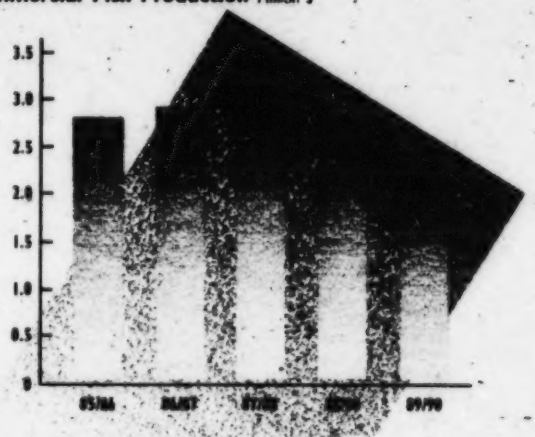
The identification of the IPN virus in rainbow trout in the Sam Livingston Fish Hatchery and the Raven Brood Trout Station resulted in the destruction of 1.7 million trout, closure of the two facilities for disinfection and a severely reduced trout stocking program. The Cold Lake Fish Hatchery was closed in 1988 for trout production because of the same infectious disease. These three facilities will operate with severely reduced rainbow trout production until the disinfection program is completed in 1991.

A fisheries planning committee was struck to deal with the Utikuma Lake winter-kill of 1988-89. Representatives from sport and commercial groups agreed upon a strategy that included repopulation and an allocation process. The strategy is to be implemented in April of 1990.

The 1989-90 commercial harvest of fish was 2,217 tonnes with a landed value (to the fishermen) of $2.23 million. The harvest showed a decrease from the previous year's catch due to a loss of production from Utikuma Lake.

Surveys of the abundance and distribution of shorthead sculpins in the Milk and Oldman river drainages were completed, and a provincial management plan is being prepared. A special Arctic Grayling Management Plan was implemented on the Little Smoky River. Various land acquisition projects and cooperative agreements were obtained to protect and increase habitats and populations, and provide public access.

Commercial Fish Production Million $



Source: Alberta Fish and Wildlife Division

Enforcement Branch

The Report A Poacher program was enhanced with the implementation of the reward component. People who report a violation that directly affects the resource and results in a charge being laid are now eligible for a reward. Reports must be made to a Fish and Wildlife officer, or the 1-800 Control Centre (1-800-642-3800). All callers may remain anonymous. During 1989-90, the line received 1,503 calls reporting illegal activities regarding fish, wildlife or habitat. Enforcement staff responded to 29,689 occurrences, of which 16,761 were problem wildlife and enforcement.

Enforcement staff investigated 362 occurrences of alleged environmental damage and spent 1,382 hours on surveillance and investigation of environmental complaints.

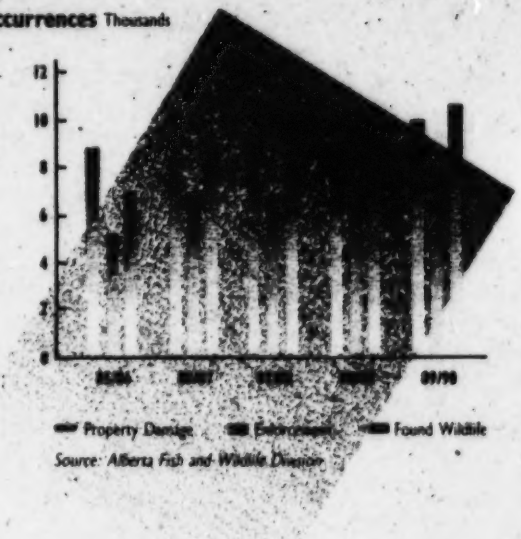
Implementation of the second phase of the three-year enforcement enhancement program resulted in an increase of six permanent officer positions and the creation of a second laboratory scientist position for the division's Forensic Unit.

Occurrences	1988-89	1989-90
Property Damage	8,525	10,000
Enforcement	6,918	6,761
Found Wildlife	10,300	10,533
Miscellaneous	1,937	2,395
TOTAL	27,680	29,689

Violations	1988-89	1989-90
Prosecutions	5,155	4,604
Warnings	2,778	2,470
TOTAL	7,933	7,074

Report A Poacher 1-800 Line	1988-89	1989-90
Illegal Hunting and Fishing	1,638	1,503
Injured and found Wildlife	840	972
Non-applicable calls	2,552	3,040
Unknown (wrong number)	450	579
TOTAL	5,480	6,094

TOTAL	5,480	6,094



Operations Branch

The Resource Management Assistant (RMA) program for Aboriginal Albertans was implemented in 1989-90. It is a post-secondary education program involving the Fish and Wildlife Division, Advanced Education, Alberta Vocational Centre (AVC) Grouard Campus, and Lethbridge Community College. Students work within the Fish and Wildlife Division in various project positions, and those who successfully complete this course may enter the Renewable Resource diploma program at Lethbridge Community College. Upon graduation, they may be eligible to enter competitions for Fish and Wildlife officer positions.

An integral part of the RMA program is the recruiting of Native liaison officers. There will be three regional Native liaison officers stationed at Calgary, Peace River and St. Paul, and an assistant Native liaison officer in the Operations Branch in Edmonton.

The Special Investigations Unit continued to monitor information regarding the illegal use of wildlife. It also maintains a database of information to monitor commercial use and abuse of fish and wildlife. This monitoring has resulted in 25 short-term investigations of groups and individuals of which 14 have been concluded. The result is three convictions and 38 pending prosecutions. There are three long-term operations ongoing. This unit also advises the division on related national and international trends. The unit received and reviewed 294 complaints from national, international and provincial sources.

Habitat Branch

The North American Waterfowl Management Plan was activated in Alberta through the joint efforts of the Fish and Wildlife Division, Ducks Unlimited, the Canadian Wildlife Service, Wildlife Habitat Canada and Alberta Agriculture. The Buffalo Lake First Step Project, under the Prairie Habitat Joint Venture, was initiated. This involved the purchase of marginal cropland for conversion to nesting cover (through zero-till fallow and underseed legume fallow) and the provision of two land management programs for farmers that will also provide nesting cover on land normally summer fallowed. Small nesting islands were constructed in many existing wetlands as part of this first step project.

The division participated in planning the large-scale program, which will be implemented throughout the Aspen Parkland, the Peace Parkland and the Prairie biomes.

The Habitat Development Program of Buck for Wildlife, initiated in 1983, retains, enhances and develops fisheries and wildlife habitat throughout the province. In 1989-90, 72 wildlife habitat projects were carried out under the program. Wildlife habitat projects undertaken included: wetlands enhancement for waterfowl (3,206 ha), range improvement such as mechanical clearing and prescribed burns for ungulates (4,129 ha), and upland enhancement such as seeding and shelterbelt planting (1,098 ha).

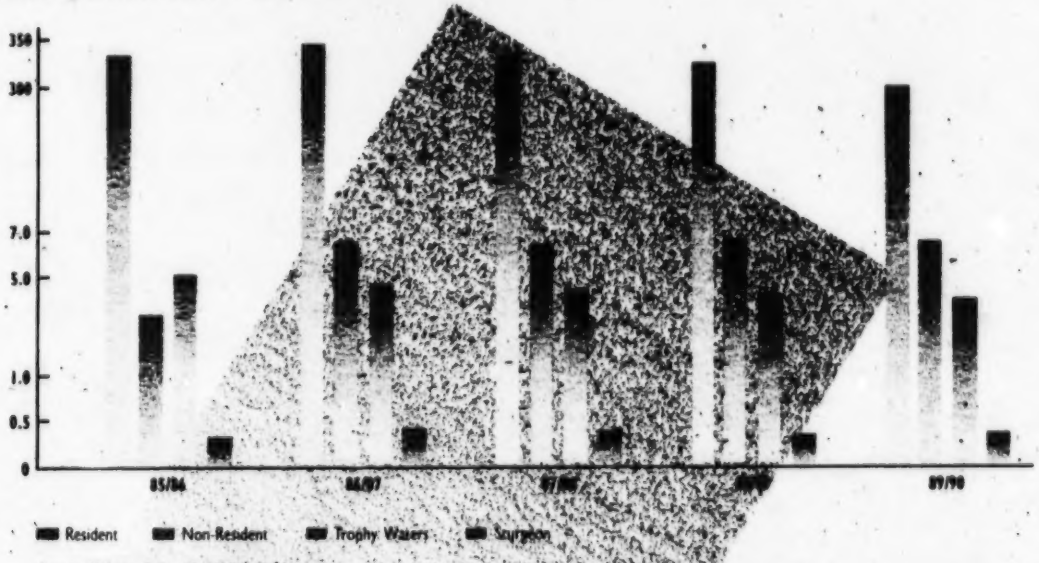
Regional habitat staff in the Eastern Slopes Region provided recommendations on conditions and zoning designed to protect the long-toed salamander. Numerous land-use applications were reviewed with special timing and reclamation conditions to protect bull trout populations. New conditions were established to protect caribou habitat during and after seismic operations in the Eastern Slopes Region. In order to minimize access, all seismic activity within the core ranges will have to be conducted by portable means, normally through use of helicopters.

Fisheries habitat development projects included lake enhancement (aeration and shoreline protection - 985 ha), stream enhancement (bank stabilization and beaver management - 246 km) and streambank fencing (23 km). Also under fisheries habitat development, grants are issued to private organizations, sportsmen's clubs and individuals for habitat enhancement projects. A total of 72 grants were issued for this purpose.

The Fish and Wildlife Division acquired, through the land acquisition budget of the Department of Public Works, Supplies and Services, 11 land parcels consisting of 1,024 hectares of important wildlife and fish habitat.

The Bighorn Creek Wildlife Enhancement Project was evaluated in cooperation with the University of Alberta. This was the second year of a three-year project to examine vegetative and wildlife response to high-elevation logging designed to benefit wildlife.

Sportfishing Licence Sales Thousand Licences



Source: Alberta Fish and Wildlife Division

The Sub-basin Watershed Management Study (started in 1985) continued to address water- and soil-related problems and refine the methods for water management plans in the Peace River region. The water management plans developed for pilot study areas in the Little Burnt and Spirit River watersheds show a potential increase in waterfowl habitats after implementation.

Fisheries instream flow surveys were continued on the Highwood River.

Division staff continued to provide input to the fish and wildlife mitigation plan for the Oldman River Dam project, through the Department of Public Works, Supplies and Services. The plan is designed to minimize the potential impact of the project on wildlife species, take advantage of mitigation opportunities arising from the development of the dam and reservoir, and strive towards the objective of no net loss of recreational fishing opportunities.

Initiated in 1986, the Landowner Habitat Program offers financial incentives to landowners to retain wildlife habitat on their lands. The success of the program has expanded to the Riparian Habitat Project. There were 88 agreements signed, securing 12,407 hectares of wildlife habitat. This program offers incentives to landowners to retain habitats along lakes, streams and rivers.

Work continued with the Eastern Irrigation District (EID) Cooperative Ventures Agreement with Ducks Unlimited. Fish and Wildlife Division also continued work under the Landowner Habitat Agreement in the EID and Bow River Irrigation District, to secure and develop 5,700 acres of wetland and upland habitat. The Lethbridge Northern Irrigation District, Taber Irrigation District and St. Mary's River Irrigation District also supported habitat development efforts and several projects were planned for construction.

Nongovernment organizations, such as the Alberta Fish and Game Association, Trout Unlimited and Ducks Unlimited, implemented 103 habitat development projects with funding grants provided through Buck for Wildlife.

Coordination Services

Coordination Services manages a number of activities and projects that involve more than one area of the department.

During 1989-90, a Correspondence Unit was established to respond to public inquiries quickly and efficiently. This unit administers the Correspondence Management Information System (CMIS), a department-wide, automated system for logging and tracking correspondence.

The department's involvement in Native land claims and related matters is managed by Coordination Services. Several claims were at various stages of discussion and negotiation.

Coordination Services played a lead role in establishing the Prairie Conservation Coordinating Committee (PCCC), the largest multi-partite environmental committee ever established in Alberta. The committee, which comprises four dozen members representing all levels of government, nongovernment organizations, public interest groups, industry, agricultural organizations, regional planning commissions and academia, will encourage the effective implementation of the Prairie Conservation Action Plan (PCAP). This plan is aimed at conserving the biological diversity of the prairie and parkland regions. The PCCC held its first two meetings and adopted a terms of reference, a set of operating principles and commenced work on an implementation plan that identifies the contributions that member organizations will make to assist in carrying out the PCAP recommendations.

In the regions, Coordination Services promotes integrated resource management. Regional resource coordinators chair interagency committees, creating awareness of departmental programs and promoting public participation in resource planning activities. These committees meet monthly to deal with a wide range of issues relating to the use and management of public lands and resources.

FINANCIAL STATEMENTS

Alberta Forestry, Lands and Wildlife

Statement of Revenue
For the year ended March 31, 1990 (Unaudited)

	1989/90 ($000)	1988/89 ($000) (restated)
Licences and Fees		
Fishing Licences	$1,369	$1,497
Game Licences	4,954	4,202
Landman Licensing Fees	31	32
Forest Technology School Fees	494	438
Timber Dues and Fees	17,443	19,982
	24,291	26,151
Dispositions, Leases and Permits		
Agriculture Leases and Permits	467	632
Grazing Dispositions and Reserve Fees	6,280	5,449
Public Land Leases and Permits	996	1,031
Resources Development Surface Dispositions	10,049	9,521
Surface Material Dispositions	1,997	1,668
	19,789	18,301
Provincial/Federal Government Agreements		
Timber Export Taxes	14,761	16,448
Other	996	1,165
	15,757	17,613
From Revenue Producing Assets	1,168	1,180
Sales of Assets		
Homestead and Land Sales	3,423	1,784
Expenditure Recoveries		
Fire Suppression	2,469	806
Other	530	876
	2,999	1,682
Miscellaneous	340	610
Total Revenue	**$67,767**	**$67,321**

Prepared by Management Systems, Reporting and Control, Financial Services Division, September 4, 1990

Statement of Expenditures
For the year ended March 31, 1990 (Unaudited)

	1989/90 ($000)	1988/89 ($000) (restated)
Financial, Administration and Policy and Advisory Services Division	$9,645	$9,506
Other Divisions		
Fish and Wildlife	23,670	22,109
Alberta Forest Service	80,753	75,799
Public Lands	19,669	18,907
Land Information Services	17,223	16,616
	141,315	133,431
Executive Offices	1,557	1,617
Special Warrants and Special Programs		
Fire Suppression Activities	23,322	33,002
Indian Land Claims Settlement	12,951	132
Land-Related Information System	-	962
Provincial Grazing Reserves	-	500
Forest Management Communications	-	359
Crop Damage Compensation Claims	-	197
	36,273	35,152
Total Expenditures	**$188,790**	**$179,706**

Prepared by Management Systems, Reporting and Control, Financial Services Division, September 20, 1990

Comparative Figures:
The 1988/89 figures have been restated where necessary to conform to the 1989/90 presentation.